IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants:	Baker et al.	Docket No:	39780-2830P1C7
Serial No:	10/006,130	Group Art Unit:	1647
Filed:	December 6, 2001	Examiner:	Rachel K. Hunnicutt

For: **SECRETED AND TRANSMEMBRANE POLYPEPTIDES AND NUCLEIC ACIDS ENCODING THE SAME**

Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

DECLARATION OF NAPOLEONE FERRARA, Ph.D., AUDREY GODDARD, Ph.D., PAUL J. GODOWSKI, Ph.D., AUSTIN GURNEY, Ph.D., JAMES PAN, Ph.D., COLIN K. WATANABE and WILLIAM I. WOOD, Ph.D. UNDER 37 CFR 1.131

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10. The DNA-64883 sequence shown in the GSeqEdit report is identical to that of SEQ ID NO: 129 disclosed in the above-identified application.

11. The beginning of the cDNA sequence corresponding to SEQ ID NO: 129 in the above-identified application is shown on page 1 of the GSeqEdit database report, and the location of the first nucleotide is marked with "^insert starts here" and an arrow. The location of the last nucleotide corresponding to SEQ ID NO: 129 is shown on page 11 and is marked with an arrow.

12. The amino acid sequence shown in the GSeqEdit report is identical to that of SEQ ID NO: 130 disclosed in the above-identified application.

13. The first 26 amino acid residues of the PRO1244 polypeptide (SEQ ID NO:130) encoded by the cDNA (DNA-64883) are also shown on page 1 of the GSeqEdit report and the remaining 309 residues appear on pages 2-6 of the report.

14. All activities listed under paragraphs 4-13 were completed prior to August 14, 1998. (See Exhibit A).

15. We hereby declare that all statements made herein of our own knowledge are true and that all statements made on information or belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful statements may jeopardize the validity of the application or any patent issued thereon.

Napoleone Ferrara, Ph.D.	Date
Audrey Goddard, Ph.D.	Date
Paul J. Godowski, Ph.D.	Date
James Pan, Ph.D.	Date
Austin Gurney, Ph.D.	Date
Colin K. Watanabe	Date
William I. Wood, Ph.D.	10/5/04 Date

SV 2060299 v2
10/1/04 2:02 PM (39780.2830)

```
>[redacted]
>DNA64883 [Full]
>510 Sites [All Sites]
>[redacted] DNA64883 wiw GSeqEdit
>[redacted] DNA64883 zemin GSeqEdit
>[redacted] DNA64883 goddarda GSeqEdit
>[redacted] DNA64883 sheldens GSeqEdit
>HBN64883.seq, sequenced at ABI/ACGT by Peter Ma and Ellson Chen
>human ortholog of implantation-associated protein - Rattus

                                                                  nlaIII
             mnlI                                                 mslI
            taqI                                                 styI
           xhoI                thaI                              ncoI
           tliI                fnuDII/mvnI                       dsaI          tseI
           smlI               hinPI   aciI                       btgI/bstDSI   fnu4HI/bsoFI
           paeR7I  mwoI     tseI bstUI[M.hhaI-]                  bstXI         bbvI                      dde
      tsp509I[M.ecoRI-]     fnu4HI/bsoFI                         bsaJI       hinPI                tailI  bsp
     ecoRI     avaI[M.taqI-]  bbvI bsh1236I                  tsp45I          hhaI/cfoI            maeII/hpyC
     apoI   mwoI bseRI     nlaIII  hhaI/cfoI             bsmAI maeIII       haeII              hpy99I  mnlI
   1 CGGAATTCGG CTCGAGGAGC GAACATGGCA GCGCGTTGGC GGTTTTGGTG TGTCTCTGTG ACCATGGTGG TGGCGCTGCT CATCGTTTGC GACGTTCCCT
     GCCTTAAGCC GAGCTCCTCG CTTGTACCGT CGCGCAACCG CCAAAACCAC ACAGAGACAC TGGTACCACC ACCGCGACGA GTAGCAAACG CTGCAAGGGA
   1                           M  A  A  R  W  R  F  W  C  V  S  V  T  M  V  V  A  L  L  I  V  C  D  V  P  S
                 ^insert starts here
                               ^MET
```

```
      mnlI                                                 aluI
    alwNI[dcm-]                                            pvuII
    alw26I/bsmAI          bsaXI       hpy188I              mspAlI/nspBII                                  bsmAI
101 CAGCCTCTGC CCAAAGAAAG AAGGAGATGG TGTTATCTGA AAAGGTTAGT CAGCTGATGG AATGGACTAA CAAAAGACCT GTAATAAGAA TGAATGGAGA
    GTCGGAGACG GGTTTCTTTC TTCCTCTACC ACAATAGACT TTTCCAATCA GTCGACTACC TTACCTGATT GTTTTCTGGA CATTATTCTT ACTTACCTCT
27   A  S  A   Q  R  K   K  E  M  V   L  S  E   K  V  S   Q  L  M  E   W  T  N   K  R  P   V  I  R  M   N  G  D

                                                               tspRI                bst4CI/hpyCH4III   cac8I
                                                               btsI                ahdI/eam1105I    cac8I
          hpy99I                  tsp509I            nlaIII                    hpyCH4V tspRI        hpyCH4V al
201 CAAGTTCCGT CGCCTTGTGA AAGCCCCACC GAGAAATTAC TCCGTTATCG TCATGTTCAC TGCTCTCCAA CTGCATAGAC AGTGTGTCGT TTGCAAGCAA
    GTTCAAGGCA GCGGAACACT TTCGGGGTGG CTCTTTAATG AGGCAATAGC AGTACAAGTG ACGAGAGGTT GACGTATCTG TCACACAGCA AACGTTCGTT
60   K  F  R   R  L  V  K   A  P  P   R  N  Y   S  V  I  V   M  F  T   A  L  Q   L  H  R  Q   C  V  V   C  K  Q
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```
                                    scrFI[dcm-]
                                    pspGI
                                    mvaI
                                    ecoRII[dcm-]
                                    dsaV[dcm-]
                                    bstNI
                                    bssKI[dcm-]
                                    apyI[dcm+]
                                  sau3AI
                                  mboI/ndeII[dam-]
                                  dpnII[dam-]
                                  dpnI[dam+]
                                  alwI[dam-]        scrFI[dcm-]
                                 bstYI/xhoII        pspGI
                                alwNI[dcm-]         mvaI                                    nlaIII
                                alw26I/bsmAI        ecoRII[dcm-]                           styI
                             tsp509I[M.ecoRI-]      dsaV[dcm-]        hpyCH4V              ncoI
                          ecoRI pflMI[dcm-]         bstNI baeI    tspRI                    dsaI
                          apoI  bslI[dcm-]          bssKI[dcm-]  bsrI bsmI hphI            btgI/bstDSI
                      mboII   hpy188III             apyI[dcm+] bpmI/gsuI[dcm-]             bsaJI                  hpy18
301 GCTGATGAAG AATTCCAGAT CCTGGCAAAC TCCTGGCGAT ACTCCAGTGC ATTCACCAAC AGGATATTTT TTGCCATGGT GGATTTTGAT GAAGGCTCTG
    CGACTACTTC TTAAGGTCTA GGACCGTTTG AGGACCGCTA TGAGGTCACG TAAGTGGTTG TCCTATAAAA AACGGTACCA CCTAAAACTA CTTCCGAGAC
 93 A  D  E  E  F  Q  I  L  A  N  S  W  R  Y  S  S  A  F  T  N  R  I  F  F  A  M  V  D  F  D  E  G  S  D
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```
                         tsp509I[M.ecoRI-]
                         ecoRI                                  hpyCH4V
               sfaNI     apoI                                 ecoNI
          hpy188I    nlaIII    aluI                           bslI           bslI      hphI    ndeI    maeIII     aciI
401 ATGTATTTCA GATGCTAAAC ATGAATTCAG CTCCAACTTT CATCAACTTT CCTGCAAAAG GGAAACCCAA ACGGGGTGAT ACATATGAGT TACAGGTGCG
    TACATAAAGT CTACGATTTG TACTTAAGTC GAGGTTGAAA GTAGTTGAAA GGACGTTTTC CCTTTGGGTT TGCCCCACTA TGTATACTCA ATGTCCACGC
127  V  F  Q   M  L  N   M  N  S  A   P  T  F   I  N  F   P  A  K  G   K  P  K   R  G  D   T  Y  E  L   Q  V  R

               ddeI[M.aluI-]
               bspCNI       mspI   sau3AI
               celII/espI   hpaII  mboI/ndeII[dam-]
               blpI/bpu1102I scrFI[M.hpaII-]                                                          bsmFI
             aluI           nciI   dpnII[dam-]                                                       sau96I
            pvuII           dsaV   dpnI[dam+]                                                        nlaIV
            mspA1I/nspBII   bssKI alwI[dam-]              sspI                         tsp509I       avaII bslI
501 GGGTTTTTCA GCTGAGCAGA TTGCCCGGTG GATCGCCGAC AGAACTGATG TCAATATTAG AGTGATTAGA CCCCCAAATT ATGCTGGTCC CCTTATGTTG
    CCCAAAAAGT CGACTCGTCT AACGGGCCAC CTAGCGGCTG TCTTGACTAC AGTTATAATC TCACTAATCT GGGGGTTTAA TACGACCAGG GGAATACAAC
160  G  F  S   A  E  Q  I   A  R  W   I  A  D   R  T  D  V   N  I  R   V  I  R   P  P  N  Y   A  G  P   L  M  L

                                  taqI                                                              aluI
                                  sfuI                                                            tseI
                                  bstBI                                       fokI               fnu4HI/bsoFI
                                  bsiCI              tsp509I   tru9I         bstF5I              bbvI
                         baeI   mboII mboII           apoI      mseI     bsrI        mwoI hpyCH4V
601 GGATTGCTTT TGGCTGTTAT TGGTGGACTT GTGTATCTTC GAAGAAGTAA TATGGAATTT CTCTTTAATA AAACTGGATG GGCTTTTGCA GCTTTGTGTT
    CCTAACGAAA ACCGACAATA ACCACCTGAA CACATAGAAG CTTCTTCATT ATACCTTAAA GAGAAATTAT TTTGACCTAC CCGAAAACGT CGAAACACAA
193 G  L  L  L   A  V  I   G  G  L   V  Y  L  R   R  S  N   M  E  F   L  F  N  K   T  G  W   A  F  A   A  L  C  F
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```
                                                                                   nlaIII      nlaIII
                                                                                 pciI        styI
                                                                                 nspHI       ncoI
                                                  sau96I                bslI     nspI        dsaI
                                                  avaII              tfiI        aflIII      btgI/bs
       cac8I      ahdI/eam1105I    nlaIV          mnlI      ndeI      hinfI      bsmFI  tsp509I bsaJI
701 TTGTGCTTGC TATGACATCT GGTCAAATGT GGAACCATAT AAGAGGACCA CCATATGCCC ATAAGAATCC CCACACGGGA CATGTGAATT ATATCCATGG
    AACACGAACG ATACTGTAGA CCAGTTTACA CCTTGGTATA TTCTCCTGGT GGTATACGGG TATTCTTAGG GGTGTGCCCT GTACACTTAA TATAGGTACC
227  V  L  A   M  T  S   G  Q  M  W   N  H  I   R  G  P   P  Y  A  H   K  N  P   H  T  G   H  V  N  Y   I  H  G

                                                                      ddeI                      tseI
                                                                     eco81I                     fnu4HI/bsoFI
                                                     tru9I           bsu36I/mstII/sauI          bbvI     hpy1
           bsrI       aluI              mboII        mseI      maeIII                           aluI    mnlI
801 AAGCAGTCAA GCCCAGTTTG TAGCTGAAAC ACACATTGTT CTTCTGTTTA ATGGTGGAGT TACCTTAGGA ATGGTGCTTT TATGTGAAGC TGCTACCTCT
    TTCGTCAGTT CGGGTCAAAC ATCGACTTTG TGTGTAACAA GAAGACAAAT TACCACCTCA ATGGAATCCT TACCACGAAA ATACACTTCG ACGATGGAGA
260  S  S  Q   A  Q  F  V   A  E  T   H  I  V   L  L  F  N   G  G  V   T  L  G   M  V  L  L   C  E  A   A  T  S

                                                                                        sau3AI
                                                                                        mboI/ndeII[dam
                                                                                        dpnII[dam-]
                                                                          sfaNI         dpnI[dam+]
                                                                  eco57I  fokI          bstYI/xhoII
      nlaIII                                                      mboII   bstF5I        bglII      nl
901 GACATGGATA TTGGAAAGCG AAAGATAATG TGTGTGGCTG GTATTGGACT TGTTGTATTA TTCTTCAGTT GGATGCTCTC TATTTTTAGA TCTAAATATC
    CTGTACCTAT AACCTTTCGC TTTCTATTAC ACACACCGAC CATAACCTGA ACAACATAAT AAGAAGTCAA CCTACGAGAG ATAAAAATCT AGATTTATAG
293 D  M  D  I   G  K  R   K  I  M   C  V  A  G   I  G  L   V  V  L   F  F  S  W   M  L  S   I  F  R   S  K  Y  H
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```
                                   bsmFI
                                  sau96I                            bsrI
                                  nlaIV                           rsaI
                                  avaII                       bpmI/gsuI[dcm-]
                          tru9I  ppuMI                        bsrI   csp6I
                aluI hpy188I  mseI   eco0109I/draII           tspRI  scaI     tsp509I
1001 ATGGCTACCC ATACAGCTTT CTGATGAGTT AAAAAGGTCC CAGAGATATA TAGACACTGG AGTACTGGAA ATTGAAAAAC GAAAATCGTG TGTGTTTGAA
     TACCGATGGG TATGTCGAAA GACTACTCAA TTTTTCCAGG GTCTCTATAT ATCTGTGACC TCATGACCTT TAACTTTTTG CTTTTAGCAC ACACAAACTT
327   G  Y  P  Y  S  F  L  M  S  O

                                                         tru9I
                                                         mseI    tru9I
   bsmI                                                ahaIII/draI    tru9I                     tru9I
 mboII hpyCH4V                  mnlI                   swaI     mseI  mseI     mboII            mseI
1101 AAGAAGAATG CAACTTGTAT ATTTGTATT ACCTCTTTTT TTCAAGTGAT TTAAATAGTT AATCATTTAA CCAAAGAAGA TGTGTAGTGC CTTAACAAGC
     TTCTTCTTAC GTTGAACATA TAAAACATAA TGGAGAAAAA AAGTTCACTA AATTTATCAA TTAGTAAATT GGTTTCTTCT ACACATCACG GAATTGTTCG

                  mnlI
                 ddeI                                  bsrI                       tsp509I      tru9I
                 bspCNI                mnlI tru9I   mboII tspRI                 tru9I     rsaI tsp509I
  mnlI          hpy188I           tsp509I   mseI    earI/ksp632I                mseI     csp6I  mseI
1201 AATCCTCTGT CAAAATCTGA GGTATTTGAA AATAATTATC CTCTTAACCT TCTCTTCCCA GTGAACTTTA TGGAACATTT AATTTAGTAC AATTAAGTAT
     TTAGGAGACA GTTTTAGACT CCATAAACTT TTATTAATAG GAGAATTGGA AGAGAAGGGT CACTTGAAAT ACCTTGTAAA TTAAATCATG TTAATTCATA

                                                                 tru9I
                                                                 mseI
                                                                hpaI
 psiI  tsp509I                                 aluI             hincII/hindII hpy188I            bslI
1301 ATTATAAAAA TTGTAAAACT ACTACTTTGT TTTAGTTAGA ACAAAGCTCA AAACTACTTT AGTTAACTTG GTCATCTGAT TTTATATTGC CTTATCCAAA
     TAATATTTTT AACATTTTGA TGATGAAACA AAATCAATCT TGTTTCGAGT TTTGATGAAA TCAATTGAAC CAGTAGACTA AAATATAACG GAATAGGTTT
```

```
                                  scrFI[dcm-]
                                  pspGI
                                  mvaI
                                  ecoRII[dcm-]
                                  dsaV[dcm-]
                                  bstNI                                                    tsp509I[M.ecoRI-]
                                  bssKI[dcm-]                                              xmnI
                                  apyI[dcm+]                                               ecoRI          mboII
                                 sexAI                                                     asp700     aluI    mslI        fokI
                            hpy188III            ndeI       maeIII                         apoI     ddeI[M.aluI-]         bstF5I
1401 GATGGGGAAA GTAAGTCCTG ACCAGGTGTT CCCACATATG CCTGTTACAG ATAACTACAT TAGGAATTCA TTCTTAGCTT CTTCATCTTT GTGTGGATGT
     CTACCCCTTT CATTCAGGAC TGGTCCACAA GGGTGTATAC GGACAATGTC TATTGATGTA ATCCTTAAGT AAGAATCGAA GAAGTAGAAA CACACCTACA

                                                                                                       taiI
                                                                                                  hgiAI/aspHI
                                                                                                  bsp1286
                                                                     hpy188I                      bsiHKAI     rmaI  ddeI
     bstZ17I                                                      mboII                       hpy188I   maeII/hpyCH4IV
     bst1107I                                                    bpuAI                     eco57I   aflIII maeI  bspC
     accI        sfaNI                       tsp509I      nlaIII bbsI                     mboII  bmyI btrI  bfaI mnlI
1501 GTATACTTTA CGCATCTTTC CTTTTGAGTA GAGAAATTAT GTGTGTCATG TGGTCTTCTG AAAATGGAAC ACCATTCTTC AGAGCACACG TCTAGCCCTC
     CATATGAAAT GCGTAGAAAG GAAAACTCAT CTCTTTAATA CACACAGTAC ACCAGAAGAC TTTTACCTTG TGGTAAGAAG TCTCGTGTGC AGATCGGGAG
```

```
                                                                                 tth111I/aspI
                                                                                 pleI
                bseRI                                                            pflFI
               mnlI                                bpmI/gsuI[dcm-]               mlyI
             bseRI                               hinPI       ddeI                hinfI
     bst4CI/hpyCH4III mnlI  hpyCH4V              hhaI/cfoI  bspCNI             bsmAI     bsmAI
1601 AGCAAGACAG TTGTTTCTCC TCCTCCTTGC ATATTTCCTA CTGCGCTCCA GCCTGAGTGA TAGAGTGAGA CTCTGTCTCA AAAAAAAGTA TCTCTAAATA
     TCGTTCTGTC AACAAAGAGG AGGAGGAACG TATAAAGGAT GACGCGAGGT CGGACTCACT ATCTCACTCT GAGACAGAGT TTTTTTTCAT AGAGATTTAT

                                  tru9I                                                                tsp45I
                                  mseI                                 tfiI                           hphI
          tsp509I                hpaI                  xmnI            hinfI                       tru9I maeIII
        psiI           smlI      hincII/hindII         asp700       hpy188I          ddeI          mseI bstEII
1701 CAGGATTATA ATTTCTGCTT GAGTATGGTG TTAACTACCT TGTATTTAGA AAGATTTCAG ATTCATTCCA TCTCCTTAGT TTTCTTTTAA GGTGACCCAT
     GTCCTAATAT TAAAGACGAA CTCATACCAC AATTGATGGA ACATAAATCT TTCTAAAGTC TAAGTAAGGT AGAGGAATCA AAAGAAAATT CCACTGGGTA

                                                                                                              dde
                 ddeI[M.aluI-]       maeIII           haeIII/palI                       tsp45I          rsaI
               aluI              tspRI          nlaIII                       tsp509I    maeIII          csp6I
1801 CTGTGATAAA AATATAGCTT AGTGCTAAAA TCAGTGTAAC TTATACATGG CCTAAAATGT TTCTACAAAT TAGAGTTTGT CACTTATTCC ATTTGTACCT
     GACACTATTT TTATATCGAA TCACGATTTT AGTCACATTG AATATGTACC GGATTTTACA AAGATGTTTA ATCTCAAACA GTGAATAAGG TAAACATGGA
```

scrFI[dcm-]
pspGI
mvaI
ecoRII[dcm-]
dsaV[dcm-]
bstNI
haeIII/palI
mscI/balI[dcm-]
eaeI[dcm-]
cfrI
scrFI[dcm-]
pspGI
mvaI bssKI[dcm-]
ecoRII[dcm-] tsp45I
dsaV[dcm-] maeIII
bstNI hinPI
bssKI[dcm-] tspRI
pleI bslI[dcm-] hhaI/cfoI
ddeI mlyI bsaJI apyI[dcm+]
bspCNI hinfI apyI[dcm+] btsI
ddeI
bspCNI
styI cac8I
haeIII/palI
mn1I bsaJI
bssS
hpy18
sau3AI
mboI/nd
dpnII[d
dpnI[da

1901 AAGAGAAAAA TAGGCTCAGT TAGAAAAGGA CTCCCTGGCC AGGCGCAGTG ACTTACGCCT GTAATCTCAG CACTTTGGGA GGCCAAGGCA GGCAGATCAC
TTCTCTTTTT ATCCGAGTCA ATCTTTTCCT GAGGGACCGG TCCGCGTCAC TGAATGCGGA CATTAGAGTC GTGAAACCCT CCGGTTCCGT CCGTCTAGTG

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                                  mscI/ball[dcm-]
                                  eaeI[dcm-]
                                 scrFI[dcm-]
                                 pspGI
                                 mvaI
                                 ecoRII[dcm-]
                                 dsaV[dcm-]
                                 bstNI
                          bsmAI  bssKI[dcm-]
                        taqI   fokI  cfrI    nlaIII        bsmAI
          hpy188III  bsaI bstF5I haeIII/palI          esp3I                    aluI
    mnlI          hpy188III  apyI[dcm+]   hphI       bsmBI                tsp509I                nlaIV
2001 GAGGTCAGGA GTTCGAGACC ATCCTGGCCA ACATGGTGAA ACCCCGTCTC TACTAAAAAT ATAAAAATTA GCTGGGTGTG GTGGCAGGAG CCTGTAATCC
     CTCCAGTCCT CAAGCTCTGG TAGGACCGGT TGTACCACTT TGGGGCAGAG ATGATTTTTA TATTTTTAAT CGACCCACAC CACCGTCCTC GGACATTAGG

                                                                                                    scrFI[dcm-]
                                                                                                    pspGI
                                                                                                    mvaI
                                                                                                    ecoRII[dcm-]
                                                                                        tspRI       dsaV[dcm-]
                                                                                sau3AI  btsI        bstNI
                      ddeI        tfiI          hpy188III                       mboI/ndeII[dam-]    bssKI[dcm-]
                      bspCNI      hinfI         ddeI                            dpnII[dam-] hpyCH4V apyI[dcm+]
      aluI       mnlI  mnlI bssSI              bspCNI      mnlI    tspRI       dpnI[dam+] bsgI  bpmI/gsuI[dcm-]
2101 CAGCTACACA GGAGGCTGAG GCACGAGAAT CACTTGAACT CAGGAGATGG AGGTTTCAGT GAGCCGAGAT CACGCCACTG CACTCCAGCC TGGCAACAGA
     GTCGATGTGT CCTCCGACTC CGTGCTCTTA GTGAACTTGA GTCCTCTACC TCCAAAGTCA CTCGGCTCTA GTGCGGTGAC GTGAGGTCGG ACCGTTGTCT
```

```
                                                          fnu4HI/bsoFI
                                                         haeIII/palI
                                                        mcrI
                                                        eagI/xmaIII/eclXI
                                                        eaeI
                                                        cfrI
          pleI                                          bsiEI      xmaI
          mlyI                                        notI         maeI
          hinfI                                       fnu4HI/bsoFI bfaI
        bsmAI                                         aciI aciI  speI
2201 GCGAGACTCC ATCTCAAAAA AAAAAAAAAA AAAAAAAAAA AAAAAAAGGG CGGCCGCCGA CTAGTGAGC
     CGCTCTGAGG TAGAGTTTTT TTTTTTTTTT TTTTTTTTTT TTTTTTCCC GCCGGCGGCT GATCACTCG
```

> length: 2269

```
accI(GTMKAC):                    1501
aciI(CCGC):                      39 498 2250 2254
aflIII(ACRYGT):                  780 1586
ahaIII(TTTAAA):                  1150
ahdI(GACNNNNNGTC):               278 714
aluI(AGCT):                      152 300 429 510 690 822 888 1015 1345 1476 1816 2070 2102
alw26I(CAGNNNCTG):               101 316
alwI(GGATCNNNN):                 318 530
alwNI(CAGNNNCTG):                101 316
apoI(RAATTY):                    3 310 423 655 1464
apyI(CCWGG):                     321 332 1422 1934 1939 2023 2189
asp700(GAANNNNTTC):              1464 1749
aspHI(GWGCWC):                   1582
```